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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,527

09/30/2005

Udo Merker

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EXAMINER

NGUYEN, KHANH TUAN

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,527	Applicant(s) MERKER ET AL.	
	Examiner KHANH T. NGUYEN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 04/07/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) 15-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>n/a</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/07/2009 has been entered.

Response to Amendment

2. The amendment filed on 03/13/2009 is entered and acknowledged by the Examiner. Claims 1-35 and 38-75 are currently pending in the instant application with non-elected claims 15-35 and 38-75 withdrawn from further consideration. Claims 36 and 37 have been canceled.

3. The rejection of claims 1-14 under 35 U.S.C. 102(a) as being anticipated by U.S. Pub. 2002/0077450 A1 (Kirchmeyer) is rendered moot in view of Applicant's amendment.

4. The rejection of claims 1-9, 11, 12 and 14 under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. 7,112,368 B2 (Hsu) is rendered moot in view of Applicant's amendment.

Claim Rejections - 35 USC § 102/103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-6 and 8-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Pat. 4,697,001 (hereinafter refer to as Walker).

Walker teaches a process of synthesizing conductive polypyrrole polymer (Title). At step A of examples I-VII, Walker teaches preparing an oxidant such as ferric ethylbenzene sulfonate, ferric perfluorooctylsulfonate, ferric perfluorobutyrate, and ferric trifluoroacetate by stirring an ion exchanger such as NaOH in water with a iron(III) salt such as $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$. The mixture is further heated to 50°C and filtered to evaporate the solvent. At step B of examples I-VII, Walker teaches the above oxidant is mixed with methanol and a polymer precursor such as pyrrole is added to the mixture to form the conductive polypyrrole polymer. Walker also teaches the solvent in both steps A and B may include alcohol, e.g. methanol, and water (Col. 3, line 59 to Col. 4, line 2). The process of preparing the oxidant as suggested by Walker reads on the claimed process for preparing an oxidant wherein a metal salt (e.g. $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$) of an organic acid or inorganic acid having organic radicals is treated with an ion exchanger (e.g. NaOH) before contacting with precursors (e.g. pyrrole). Please note that the optional redissolving step is an optional step and need not be suggested by the reference to be anticipatory.

The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

In the alternative that the above disclosure is insufficient to anticipate the above listed claims, it would have nonetheless been obvious to the skilled artisan to arrive the claimed process, any minor modification necessary to meet the claimed limitations, would have been within the purview of the skilled artisan.

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Pub. 2002/0077450 A1 (Kirchmeyer) or U.S. Pat. 7,112,368 B2 (Hsu) in view of U.S. Pat. 5,886,046 (hereinafter refer to as Nishiyama).

Kirchmeyer discloses a process for preparing an oxidant for the preparation of conductive polymers, wherein a metal salt such as iron(III) toluenesulfonate salt of an organic acid or an inorganic acid containing one or more sulfonic acid radicals [0032-0035] is treated with a weak anion exchanger such as Lewatit® MP 62 [0048] to remove metal ions [0041] in the presence of organic solvents such as methanol, ethanol and butanol [0037]. Kirchmeyer also discloses solvent may contain up to about 5% by weight of water [0036]. Kirchmeyer discloses the solution of oxidant is separated from the solvent by filtration after treatment with ion exchanger to obtain a clear dark-blue

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solution [0047- 0048]. The clear dark-blue oxidant-containing solution may further be diluted (i.e. redissolved) with ethanol [0048]. The optional redissolving step is an optional step and need not be suggested by the reference to render the instant claims obvious. In other words, Kirchmeyer teaches a process for the preparation of polythiophenes that are readily soluble or dispersible in anhydrous or low-water content solvents wherein phase-transfer catalysts are added during the reaction ([0041] and [0048]).

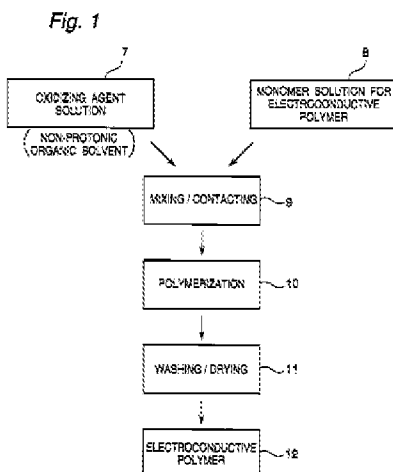
Hsu discloses a process for preparing an oxidant for the preparation of conductive polymers by oxidative polymerization, wherein a metal salt of an organic acid or an inorganic acid containing one or more sulfonic acid radicals (e.g. iron(III) p-toluenesulfonate salt) (Col. 3, lines 23-37) is treated with an anion exchanger (e.g. Lewatit® MP 62) to quench the polymerization and remove metal ions (Col. 3, lines 56-60 and Col. 8, lines 40-41) in the presence of water or organic polar or non-polar solvents (Col. 4, lines 62-65). Hsu discloses the oxidant-containing polymer solution of is separated from the solvent by filtration after treatment with ion exchanger (Example 1).

Neither Kirchmeyer nor Hsu teach or suggest the oxidant solution being treated with an ion exchanger before the solution is mixed with precursors for the preparation of conductive polymers, i.e., polythiophenes.

In analogous art, Nishiyama teaches a method for preparing electroconductive polymers such as polythiophene derivative polymers (Col. 4, lines 23-30) wherein an oxidizing agent solution, step 7, is prepared before said solution is contacted with a

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monomer (precursor) solution, step 8, to form the electroconductive polymer, steps 9 to 12 (Fig. 1). Nishiyama teaches the oxidizing agent solution may include an oxidant such as iron (III) salt dissolved in a non-protonic organic solvent such as acetonitrile (Col. 3, lines 59-65).



Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to split the one-step preparation of Kirchmeyer or Hsu wherein the oxidant is added to the precursor solution during the reaction as suggested by Kirchmeyer or Hsu into two-steps as suggested by Nishiyama wherein the oxidant is prepared in a solution before contacting with the oxidant solution with the precursor solution as suggested by Nishiyama to produce polythiophene polymer. Please note the court has held that the transposition of process steps or the splitting of one step into two, where the processes are substantially identical or equivalent in terms of function, manner and result, was held to not patentably distinguish the processes, see *Ex parte Rubin*, 128 USPQ 159 (PO BdPatApp 1959).

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In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

Response to Arguments

11. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHANH T. NGUYEN whose telephone number is (571) 272-8082. The examiner can normally be reached on Monday-Friday 7:00-4:00 EST PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Kopec/
Primary Examiner, Art Unit 1796

/KTN/
Examiner
05/06/2009